DOCUMENT RESUME

ED 241 810 CE 800 107

AUTHOR LaBarre, James E.; Zahn, Donald K.
TITLE Keyboarding.
INSTITUTION Wisconsin State Dept. of Public Instruction, Madison.
PUB DATE Jul 83
NOTE 6p.; A position paper on keyboarding requested by the State Superintendent's Advisory Committee for Business Education and Future Business Leaders of America.
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Basic Business Education; Basic Skills; *Business Skills; Computer Literacy; *Daily Living Skills; Elementary Secondary Education; Office Machines; Skill Development; *Typewriting
IDENTIFIERS *Keyboarding; PF Project

ABSTRACT

A summary of keyboarding as an increasingly essential teaching area in today's computer-oriented society is presented. Following a section defining keyboarding (the use of a typewriter-like board to enter information into technological equipment), the document discusses the need for this skill, when instruction should begin, what skill level students should be expected to attain, the role of the business teacher in keyboard instruction, proper equipment, software, and additional considerations. (LP)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED241810

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

✓ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

James E. LaBarre

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

KEYBOARDING

A Position Paper on Keyboarding requested by the State Superintendent's Advisory Committee for Business Education and Future Business Leaders of America endorsed by State Superintendent Herbert J. Grover.

Authors

Dr. James E. LaBarre
University of Wisconsin-Eau Claire

Dr. Donald K. Zahn
University of Wisconsin-Whitewater

CE 800 107

July 1983

What is Keyboarding

"Keyboarding is the act of inputting information into various types of equipment through the use of a typewriterlike keyboard.[1] (Hanson and Rigby, p. iv).

Who needs Keyboarding Skills

People in almost every walk of life need keyboarding skills to support their personal and business activities.

> "Governmental agencies, business organizations, educational institutions, and individuals have all experienced the extremely rapid growth of information and increased need to access this information. Much of this information and data is communicated, summarized, calculated, recorded, classified, stored, and retrieved electronically. If any of this information is processed on a simple machine such as an electric typewriter - or on the latest model of computer or word processor - the person processing it will use a common element: the keyboard."[2] (LaBarre, et al., p. vi).

> "Tasks that were formerly manual operations have now become automated through the use of computers and other equipment which use a keyboard for data entry. Some of the positions that now require keyboarding skills include the bookkeeper who enters journal transactions into a computer via a keyboard; the records manager who uses the computer terminal keyboard to locate specific documents in the file; the inventory clerk who keeps track of shipments of stock and receipt of new stock via the computer terminal; the airline agent who uses the keyboard for reservations, passenger check-ins, and seat assignments; and the business executive who has a computer terminal on the desk to access current information which will be useful in making managerial decisions."[3] (Hanson and Rigby, p. v).

With the rapid expansion of computers, primarily microcomputers, it is paramount that educational institutions require that all students obtain a keyboarding skill. This will enable them to function in the world of computers.

Keyboarding skill will allow students to more efficiently interface with microcomputers in an educational setting as well as in a personal and/or future employment setting. For the foreseeable future, the standard keyboard, as used on typewriters, word processors, microcomputers, computer terminals, and numerous other input devices, will serve as the primary device for inputting information (words, numbers, and symbols) into electronic information processing systems (word processing, computers, or integrated systems).

> "The widespread application of microcomputers is a societal, not merely an educational phenomenon.
>
> From the beginning of history through 1980, approximately one million computers were produced. The three top manufacturers of microcomputers plan to produce one million computers during calendar year 1982. Recent projections estimate a 40% annual growth rate to 3.7 million units valued at 3.9 billion dollars in 1985. The eventual adoption of computer technology is not a decision that is in the hands of the educational community. This is a phenomenon that is being embraced by some of the more conservative elements of our society."[4] (Hafmeister, p. 116).

Every facet of business and industry is finding it impossible to function without the help of computers--from micros to mainframes. A film produced by the Learning Corporation of America in 1979 stated that the cost of most business would increase 40 percent without the use of computers because of the increased number of employees needed to handle data.[5] (Learning Corporation of America, 1979)

One midwestern school of business requires that all students posses a keyboarding skill prior to enrollment in the school's introductory data processing course. Carnegie-Mellon University is one of several universities that will begin requiring each incoming freshman to purchase a microcomputer. This microcomputer will be purchased over the four-year period and will be the students' personal computer at that time.

The keyboard, until voice input is perfected sometime in the future, will be the most used tool at our fingertips. Its impact may be greater than that of the printing press. A keyboard, used in conjunction with the telephone, will become the communication system for the next decade.

In order to satisfy personal and employment needs, students must learn to use the common input tool--the keyboard.

When Should Keyboarding Instruction Begin?

Students should develop keyboarding skills just prior to the time they will apply the skill. Therefore, it is inappropriate to make an arbitrary decision or recommendation on which grade level keyboarding skills are most suitably developed.

Students are using microcomputers from kindergarten through their final year in college. Most educational software packages used in kindergarten through the elementary grades require inputting one- and two-

character responses to drill and practice problems used on microcomputers. This level of input does not require a "touch skill" on the keyboard.

However, when students are to become involved in work with a microcomputer that can be facilitated by touch control of the keyboard, a keyboarding skill should be developed.

Some examples of activities at the microcomputer that are carried out more easily with keyboarding skill are: a) entering data sets for completing problems, b) entering text material when using word processing software, and c) entering program statements when learning a language for problem solving.

What Skill Level Should Students Achieve?

Students enrolled in keyboarding courses should reach 30-40 wpm (3-4 lines) with one error/minute on a one-, two-, or three-minute timed writing. This touch skill should be reached in 25-45 hours of instruction.

These standards/expectations are comparable to those identified by Dr. Patsy A. Dickey-Olson for her course entitled "Keyboarding Skills for Business Majors." She states:

"The student completing the course should be able to perform the following skills:

-Demonstrate the correct 'touch' system techniques for operating the alpha-numeric keys.

-Demonstrate the correct 'touch' technique to be used on a ten-key numerical pad.

-Demonstrate a straight-copy speed of 30 words-per-minute and an accuracy level of not more than two errors-per-minute.

-Demonstrate the ability to work from typed and rough-draft material.

-Demonstrate the ability to detect and correct errors in completed work (proofread).

-Demonstrate the ability to follow oral and written direction.

-Demonstrate the ability to backspace and correct errors. . ."[5] (Dickey Olson, Vol. 3, No. 2)

Why Should Business Education Teachers Teach Keyboarding?

"Teaching the typewriter keyboard and building initial basic skill can be an exciting experience for both teachers and students. The degree to which this will be so depends largely upon the teacher's enthusiasm and skill in:

1. motivating learners through goal setting;
2. giving students a model to follow by carefully planned and executed demonstrations;
3. observing the process of learning (the hands and fingers) more than the product (paper checking);
4. pacing students through dictation and time-interval procedures at appropriate speeds;
5. providing feedback and suggestions that help students succeed;
6. showing an interest in each student's difficulties as well as successers."[9] (Robinson, p. 57)

The development and mastery of keyboarding skills is a crucial teaching area. Teachers certified in typewriting are prepared to deliver instruction using correct methodology and psychological principles for psychomotor skill development. This same level of teaching preparedness is needed by those individuals teaching keyboarding.

"The behavior of the teacher in the classroom has either a positive or a negative effect upon the learning of students (Bloom, 1975, 108-38) . . .teaching typewriting is even more complex than learning to typewrite. Effective teaching requires knowledge of the learning process, skill in arranging the conditions of learning, and skill in the process of interacting with students and manipulating human characteristics toward worthwhile ends . . . The kind of guidance and direction given students in the typewriting classroom is a potent factor affecting motivation to learn and rate and degree of learning."[7] (Robinson, et al, p. 13)

Business education instructors prepared to teach typewriting learn to recognize student readiness for developing new typing skills. They are prepared to recognize student readiness and maturation as they prescribe exercise activities for students. The same preparation is needed for those who will teach keyboarding.

"Motivation is a crucial component of all instruction, including typewriting. However, it is necessary to understand what is involved in motivation in order to use it effectively. Motivation is not a single activity that can be predetermined in a classroom, but should result from all of the activities that are used within the classroom."[8] (McLean, p. 6)

Business education instructors are taught to take advantage of intrinsic and extrinsic motivational techniques for psychomotor skill development. It is the instructors' ability to utilize these diverse motivational stimulants that aid them in helping students develop the highest level of skill possible within the scheduled in-

structional time constraints of the classroom. Once again, the keyboarding instructor must be able to capitalize on the same student stimulations.

> "The teaching of typewriting is a complex and demanding activity. It is not an act to be delegated to just anyone. Almost anyone can maintain order and grade papers in a type-writing classroom (manage learners). But it takes a knowledgeable teacher who understands how skill learning occurs to teach typewriting as it can and should be taught (manage learning). The task is not easy, but anything worthwhile takes effort . . .[10] (Robinson, p. 18)

What Equipment Is Needed?

A keyboarding work station should contain, at the minimum, the following components:

a. Standard typewriter keyboard containing cursor-control keys
b. Video monitor-black and white, green, or amber screen
c. Secondary storage device--floppy disk, hard disk, or cassette tape
d. 10-key numeric pad--either built into the keyboard or as an attachment to the system.

What Software Is Needed?

If software is selected for use in the keyboarding class, the instructor should ensure that it compliments the course objectives. Any software selected should be pedagogically sound and supported by teacher usable documentation.

Some of the software packages currently available (as of April, 1983) that may be used, to some extent, as an instructional aid include:

a. Hi-Res Mastertype, Lightning Software, P.O. Box 11725, Palo Alto, CA 94306, 1981 (APPLE)
b. Cooks Typing Tutor, Cook's Computer Company, 1905 Bailey Drive, Marshalltown, IA 50518 (APPLE)
c. Progressive Touch Typing Tutor, Progressive Software, Suite 323, Blue Bell West, Blue Bell, PA 19422 (APPLE)
d. Microsoft Typing Tutor, Microsoft Consumer Products, 10800 N.E. Eight, Suite 507, Bellevue, WA 98004 (APPLE/TRS-80)
e. MECC Business Volume I includes a program on the disk called TYPING which gives user practice in improving their typing speed (APPLE)
f. Gregg Keyboarding for Information Processing, Gregg/McGraw-Hill, 13955 Manchester Road, Manchester, MO 63911, 1982 (APPLE/TRS-80)
g. Basic Information Keyboarding Skills, South-Western Publishing Co., 355 Conde Street, West Chicago, IL 60185, 1982 (APPLE/TRS-80)
h. Typing Strategy, Behavioral Engineering, 230 Mount Hermon Rd., Suite 20, Scotts Valley, CA 95066 (408/438-5649) (APPLE/IBM PC/Commodore 64/VIC 20)
i. Letter Man, Behavioral Engineering, 230 Mount Hermon Rd., Suite 207, Scotts Valley, CA 95066 (408/438-5649) (APPLE/IBM PC/Commodore 64/VIC 20)
j. Typing Teacher, Instant Software, Peterborough, NH 03458 (TRS-80 Model I & II)
k. Type Right, Barron Enterprises, 714 Willow Glen Road, Santa Barbara, CA 93105 (APPLE II, PET/CBM, Super PET or CBM)

Are There Other Teaching Considerations?

When teaching keyboarding, the focus is on the input rather than output. Students must be quick and accurate when inputting and must learn how to make corrections when incorrect characters are inputted. Less emphasis may be placed on learning outputting skills since the computer software usually provides for formatting considerations when copy is printed on paper. However, in keyboarding, just as in typewriting:

> "The major procedures bear on (1) repetition, (2) a gradual and easy transition from sight to touch typing, (3) initial emphasis on stroking speed, not errors, (4) teaching for technique, and (5) rate of keyboard presentation.[11] (West, p. 2)

Students are expected to key information quickly and accurately. They should learn and understand basic information processing vocabulary as well as concepts used in inputting and retrieving information. Students should become more confident on the microcomputer and its many applications. Learning the terminology of information processing and developing a touch skill on the microcomputer keyboard contribute to their computer literacy.

The practice material used should provide ample practice on numbers, special characters, and control characters as well as alphabetic characters. Practice copy should be similar to the material they will input after developing their keyboarding skill.

Summary

The integration of communications, data processing, records management, and word processing equip-

ment provides one basic keyboard for input. The functions of these four systems are performed through the use of keyboarding skills. Students preparing for employment, where one or more of these systems may be used, must have a keyboarding skill.

Those who do not find the need for a keyboarding skill for employment will find this skill personally useful. Home computers are becoming increasingly popular. Eventually people will select and order groceries via computer and "read" the daily newspaper simply by keyboarding the appropriate codes. Every student will find a variety of applications for an efficient skill on the keyboard.

The challenge for business teachers, administrators, guidance counselors, and board of education members is to provide students with a basic education for today's and tomorrow's technical world. This challenge extends beyond a knowledge of machinery to an understanding that employers need eager-to-learn, responsible, and flexible personnel who have good keyboarding and communica on skills.

[1]Robert N. Hanson and D. Sue Rigby, Keyboarding for Information Processing, (New York: McGraw-Hill, 1981, p. iv).
[2]James E. La Barre, et al., Keyboarding for Information Processors, (Chicago: Science Research Associates, 1932, p. iv).
[3]Hanson and Rigby, p. v.
[4]Alan M. Hofmeister, "Microcomputers in Perspective," Exceptional Children, Vol. 49, No. 2, (Oct. 1982: p. 116).
[5]"Some Call It Greed," Learning Corporation of America, 1979 - Film.
[6]Patsy A. Dickey-Olson, "Keyboarding," Balance Sheet, Vol. 63, No. 2, (Nov. 1981): p. 92.
[7]Jerry W. Robinson, et al., Typewriting: Learning and Instruction, Cincinnati: South-Western Publishing Co., 1979, p. 13.
[8]Gary N. McLearn, "Teaching Typewriting, Delta Pi Epsilon Rapid Reader No. 3, 1978, p. 6.
[9]Robinson, p. 57.
[10]Robinson, p. 18.
[11]Leonard J. West, "Principles and Procedures for Teaching Typewriting," Monograph 1, (New York: Harcourt, Brace, Jovanovich, 1979, p. 2.)

The Department of Public Instruction does not discriminate on the basis of race, sex, age, religion, handicap, or national origin.